

AU InforMed

Volume 10 Number 2 (Issue 253)

Friday, March 16, 2012

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Key Inforbits

- Background information
- Important Facts
- Poisoning Occurrence
- Poisoning Consequences
- Prevention Strategies
- Poison Control Center



National Poison
Prevention Week is
March 18th-24th



A little about Poison Prevention Week

National Poison Prevention Week came to fruition on September 16, 1961 with the main objective being to increase public awareness about the dangers of unintentional poisonings and to provide beneficial poison prevention strategies. After the establishment of National Poison Prevention Week, the Poison Prevention Week council was created in order to annually coordinate this occasion, and this year marks the event's 50th Anniversary.¹

1. POISON PREVENTION.ORG [Internet]. Poison Prevention Week Council. [updated 2011 Oct 18; cited 2012 Feb 21]. Available from: <http://www.poisonprevention.org/index.htm>.

What are unintentional poisonings?

Most commonly, unintentional poisonings are a result of improper, excessive consumption of drugs or chemicals. The majority of unintentional poisonings in children occur before a child is 6 years old. In adults, unintentional poisonings are considered to be one of the leading causes of death, with the highest occurrence of death in those between the ages of 40-49 years old. The most common offending substances in unintentional poisonings vary depending on the age group. In adults, pain medicines, sedatives, hypnotics, antipsychotics, antidepressants, cardiovascular medications, and alcohol are the culprit in most unintentional poisonings; whereas in children, the majority are caused by common household products.¹

1. American Association of Poison Control Centers [Internet]. American Association of Poison Control Centers; c2012. Frequently Asked Questions; [cited 2012 Feb 21]; [1 screen] Available from: <http://www.aapcc.org/dnn/PPDSPoisonData/PoisonStatistics.aspx>.

Did you know?

- In 2009, more than 4.2 million calls were placed to U.S. poison centers (1 call every 8 seconds)¹
- More than 90% of poisonings occur in the home²
- Deaths due to unintentional poisoning in the US have increased by 145% from 1999 to 2007³
- In 2007, unintentional poisoning was the 2nd ranked cause of unintentional injury death behind motor vehicle crashes³
- In 2005, poisonings led to \$33.4 billion in medical and reduced productivity costs³

1. American Association of Poison Control Centers [Internet]. American Association of Poison Control Centers; c2012. Statistics: 2009 Statistics-basic; [cited 2012 Feb 21]; Available from: <http://www.aapcc.org/dnn/PPDSPoisonData/PoisonStatistics.aspx>

2. POISON PREVENTION.ORG [Internet]. Poison Prevention Week Council. [updated 2011 Oct 18; cited 2012 Feb 21]. Available from: <http://www.poisonprevention.org/index.htm>.

3. CDC 24/7: Saving lives. Protecting People. Saving Money through Prevention. [internet] Atlanta: Centers for Disease Control and Prevention; Poisoning in the United States: Fact Sheet; [updated 2012 Feb 27; cited 2012 Mar 1]. Available from: <http://www.cdc.gov/HomeandRecreationalSafety/Poisoning/poisoning-factsheet.htm>

Common ways poisonings occur

Curiosity

Children are particularly susceptible to poisonings as their natural curiosity and propensity for learning prompts exploration. According to the American Association of Poison Control Centers (AAPCC), the substances most frequently implicated in poisonings of children are not pharmaceutical agents but rather common household substances.^{1,2} These substances include: cosmetics, personal care products and household cleaners. Children are easily enticed by the brightly colored liquids and colorful containers that are found around the house. Furthermore, many household cleaners and personal care products are scented. The fruity and sweet smelling substances stimulate a child's senses and evoke a sense of familiarity and comfort, associated with something like lemonade rather than lemon scented bleach. It is imperative to remember that a young developing mind relies on shapes, colors, and smells as a guide to reference familiar objects. The picture below illustrates that many medications actually look like candy to children. Can you tell the difference?

1. American Association of Poison Control Centers [Internet]. American Association of Poison Control Centers; c2012. Frequently Asked Questions; [cited 2012 Feb 21]; [about 2 screens]. Available from: <http://www.aapcc.org/dnn/PoisoningPrevention/FAQ.aspx>.

2. Bronstein AC, Spyker DA, Cantilena LR, Green JL, et al. 2010 Annual Report of The American Association of Poison Control Centers' National Poison Data System (NPDS): 28th Annual Report. Clin Toxicol. 2011.49:910-941.



Dosage Errors

Recently, a report from the FDA's Center for Drug Evaluation and Research, highlighted the confusion regarding acetaminophen dosing as the concentration of the infant formulation differs from the concentration marketed for children.¹ This finding is supported by the fact that data tabulated by the American Association of Poison Control Centers in 2010, found the second most common reason for therapeutic dosing errors in children age 5 and younger is due to the incorrect formulation or concentration of a product.² Currently, there are still two concentrations of acetaminophen available: the concentrated 80 mg/0.8 mL infant drops and the less concentrated 160 mg/5mL suspension.¹ The purpose for this was that it would be easier to get an infant to take a small amount of medicine rather than a larger amount. In order to prevent accidental overdosing, as well as under-dosing, the FDA has recommended that manufacturers standardize the dosing of acetaminophen in pediatric formulations to avoid confusion and administration errors. Most manufacturers have voluntarily suspended the production of the 80 mg/0.8mL formulation and have replaced it with the 160 mg/5mL formulation.¹ Parents are advised to use caution when using acetaminophen products, especially, products that are already at home without their original labeling or packaging. Additionally, parents should only dose acetaminophen with the dosing device packaged with the product.¹ Parents should note that dispensing cup error is the number one reason for therapeutic dosing errors in young children.²



1. FDA: Know Concentrations Before Giving Acetaminophen to Infants [Internet]. Silver Spring: U.S. Food and Drug Administration; 2011 Dec 22 [cited 2012 Feb 21]; [about 2 screens]. Available from: <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm284563.htm>

2. Bronstein AC, Spyker DA, Cantilena LR, Green JL, et al. 2010 Annual Report of The American Association of Poison Control Centers' National Poison Data System (NPDS): 28th Annual Report. Clin Toxicol. 2011.49:910-

Confusion

On average, a senior citizen takes five prescription medications and two over the counter medications on a daily basis.¹ This rigorous regimen can be complicated when medications need to be taken multiple times a day. A complicated regimen can cause inadvertent therapeutic duplication or overdose. It's important to note that medications account for over 45% of the poisoning that occur in the elderly.¹



1. Children's Hospital of Pittsburgh. Poison Prevention for Seniors. 2004

Medication Misuse

Though medications are prescribed to provide necessary medical treatment, a major cause of unintentional poisonings has arisen because of prescription medications being used for non-medical purposes. The most popular medications abused are prescription painkillers because of the “high” they can provide. Because these medications are not being taken as prescribed, overdoses often occur which frequently leads to death.¹



¹ American Association of Poison Control Centers [Internet]. American Association of Poison Control Centers; c2012. Frequently Asked Questions; [cited 2012 Feb 21]; [1 screen] Available from: <http://www.aapcc.org/dnn/PoisoningPrevention/FAQ.aspx>.

Possible consequences of poisonings

Respiratory Complications:



- The most common factor contributing to death from unintentional poisoning is loss of airway-protective reflexes with subsequent airway obstruction. This obstruction can lead to ventilatory failure, hypoxia, and bronchospasm.
- All poisonings should be suspected of having a compromised airway. Some of the common agents associated with respiratory complications include: Neuromuscular blockers, nicotine, snake bites, organophosphates, opioids, barbiturates, ethanol, sedative-hypnotics, tricyclic antidepressants, gas/smoke inhalation, beta antagonists, and anticholinesterases.

Cardiovascular Complications:

- Some features of poisonings can depress sympathetic tone or increase parasympathetic tone. These conditions often lead to QRS interval prolongation, tachycardia, hypertension, and hypotension and may progress to cardiac arrest. Some of the common drug classes included: cholinergic or vagotonic agents, sympatholytic agents, membrane depressants, alpha agonists, antidepressants, sympathomimetics, and anticholinergic agents, and toxicity of depressants or stimulants.



Central Nervous System Complications

- Altered mental status: coma or stupor, assessed by a decreased level of consciousness is the most serious complication of an unintentional poisoning. Other CNS complications such as: hyperthermia, hypothermia, seizures, agitation, and delirium can all be indicative of poisoning or overdose.
- Some of the common agents associated with CNS effects include: CNS depressants, sympatholytic agents, cocaine, amphetamines, LSD, and MAOIs.

Muscular Complications:

- Dystonia, dyskinesia, and rigidity - are common with therapeutic or toxic doses of many prescription drugs. Sustained muscular rigidity can lead to rhabdomyolysis, hyperthermia, ventilatory failure, or metabolic acidosis. Some of the common agents associated with these symptoms are: Haloperidol, metoclopramide, ziprasidone and other atypical antipsychotic agents as well as amphetamines, anticholinergic agents, SSRIs, levodopa, and MAOIs.

Allergic Reactions:

- Anaphylactic and anaphylactoid reactions - characterized by bronchospasm and increased vascular permeability that can lead to laryngeal edema, skin rash, and hypotension.
- These reactions can result in laryngeal obstruction, respiratory arrest, hypotension, or death.
- Agents that are most commonly associated with anaphylactic reactions include: Foods, antibiotics, vaccines, blood products, and morphine.

1. Olson KR, Anderson IB, Benowitz NL, Blanc PD, et al. Poisoning & drug overdose, 5th edition .Lange Medical Books/McGraw-Hill. C2007. p 1-27.

Safe Disposal of Unused Medications

Medicine Take Back Programs:

Medicine take-back programs provide a safe and easy way to remove expired, unwanted or unused medicines from the home and reduce the chance that others may accidentally take the medicine.

- Local take-back programs - Call your local city or county trash and recycling services to see if any take back programs are available in your community.
- Federal take-back programs - Periodically during the year, the DEA partners with local law enforcement agencies to establish national prescription drug take back days throughout the United States.
- The next national take-back initiative is scheduled for: April 28, 2012 from 10:00 AM - 2:00 PM. Inquires about state-wide site collection can be made at: 1-800-882-9539.

Disposing in Household Trash:

- Medications should be mixed with other non-hazardous, undesirable substances such as cat litter or coffee grounds and placed in a sealed container before throwing in the trash.
- Before throwing out, insure any drug-identifying information such as medication labels are unreadable.



Flushable Medications:

Do **NOT** flush any prescription medication down the toilet unless it is specifically instructed to do so.

- Only certain drugs which are especially harmful to children and pets such as: fentanyl, morphine, hydromorphone, oxymorphone, methadone, diazepam, and tapentadol derivatives have been listed by the FDA for safe disposal by flushing.
- The FDA is continually evaluating and updating the list of flushable medications. Any questions concerning flushable medications can be addressed at: 1-888-INFO-FDA (1-888-463-6332)

1. Olson KR, Anderson IB, Benowitz NL, Blanc PD, et al. Poisoning & drug overdose, 5th edition .Lange Medical Books/McGraw-Hill. C2007. p 1-27.

2. Got Drugs? U.S. Department of Justice. DEA. Office of Diversion Control. [Internet]. Available from: http://www.deadiversion.usdoj.gov/drug_disposal/takeback/index.html

3. Disposal of Unused Medicines: What You Should Know.FDA Protecting your health.[Internet]. Available from: <http://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/EnsuringSafeUseofMedicine/SafeDisposalofMedicines/ucm186187.htm>

Poison Control Center

800-222-1222

There are a total of 57 poison control centers across the United States. These centers are available 24 hours a day, 7 days a week, 365 days a year, and are able to provide recommended treatment for the improper ingestion of household products and medications. Each call is answered by a medical expert who can often take care of the problem over the phone if notified in time. ¹

2. American Association of Poison Control Centers [Internet]. American Association of Poison Control Centers; c2012. Frequently Asked Questions; [cited 2012 Feb 21]; [1 screen] Available from: <http://www.aapcc.org/dnn/PoisoningPrevention/FAQ.aspx>.

For more information visit

www.aapcc.org



The last “dose” ...

“Every time you get angry, you poison your own system.”

~Alfred A. Montapert~

Medicine or Candy? - Answers				
	1	2	3	4
A	Reese's Pieces™	Phenylephrine/ Guaifenesin	Acetaminophen	m&m™
B	Enteric Coated Aspirin	Mike and Ike™	Good & Plenty™	Pseudoephedrine
C	m&m™	---	---	Red Hots™

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